

marked-up version of claims 15, 17, 18, 36-48 and 75-91, 98 and 100, which shows all of the changes that have been made to the claims, is submitted herewith with additions double underlined and deletions shown in ~~strikethrough~~ text. No new matter is added by these amendments. Please also add new claims 101 and 102 presented below.

C1 Subj 15. (Amended) An apparatus, comprising:

a rotatable member being rotatable about an axis;

a sensor coupled to said rotatable member, said sensor configured to send data associated with a rotation of said rotatable member to an electronic device having a plurality of selectively actuated functions, each of the selectively actuated functions being selectable based on a displacement of said rotatable member; and

an actuator coupled to said rotatable member, said actuator configured to output a haptic force sensation to said rotatable member, the haptic force sensation being associated with a selected one of the plurality of functions.

C2 Subj 17. (Amended) The apparatus of claim 15, wherein said sensor is configured to send the data to the electronic device via wireless transmission using an electromagnetic beam.

C3 Subj 18. (Amended) The apparatus of claim 15, wherein the electronic device includes a video game console and the apparatus includes a game controller for sending data to the video game console.

C3 Subj 36. (Amended) The apparatus of claim 15, wherein the plurality of functions includes at least one of controlling a volume for audio output, selecting at least one of a received broadcast station and a channel from multiple stations and channels, and scrolling through a list of possible selections.

37. (Amended) The apparatus of claim 36, wherein the haptic force sensation associated with controlling the volume for audio output includes at least one of a damping sensation and a friction sensation.

38. (Amended) The apparatus of claim 36, wherein the haptic force sensation associated with selecting at least one of the broadcast station and the channel includes at least one of a detent sensation and a jolt sensation.

39. (Amended) The apparatus of claim 38, wherein the detent sensation and the jolt sensation are associated with selection of particular stations and channels.

40. (Amended) The apparatus of claim 36, wherein the haptic force sensation associated with scrolling through a list of possible selections includes a spring return sensation.

41. (Amended) The apparatus of claim 40, wherein the scrolling is associated with an isometric control paradigm.

42. (Amended) The apparatus of claim 15, wherein the actuator is configured to be responsive to isometric and isotonic interface paradigms.

43. (Amended) The apparatus of claim 15, further comprising a controller, the controller configured to assign at least one of a plurality of different levels of simulated inertia to said rotatable member, the assigned level of inertial based on the selected one of the plurality of selectively actuated functions.

44. (Amended) The apparatus of claim 15, further comprising a controller, the controller configured to selectively associate detents from a plurality of detents with said rotatable member, the selectively associated detents being associated with the selected one of the plurality of selectively actuated functions.

3 cont.

*C3
Conf.*

45. (Amended) The apparatus of claim 15, further comprising a controller, the controller configured to associate hard stops at predetermined locations within a range of travel of said rotatable member, the predetermined locations being associated with the selected one of the plurality of selectively actuated functions.

46. (Amended) The apparatus of claim 15, further comprising a controller, the controller configured to associate different levels of simulated damping with said rotatable member, the associated level of simulated damping being associated with the selected one of the plurality of selectively actuated functions.

47. (Amended) The apparatus of claim 15, further comprising a controller, the controller configured to associate different levels of simulated friction to said rotatable member, the associated level of simulated friction being associated with the selected one of the plurality of selectively actuated functions.

48. (Amended) The apparatus of claim 15, wherein the displacement of said rotatable member is a depression of said rotatable member.

Sub E1

75. (Amended) A method, comprising:

sensing of a position of a rotatable member of an apparatus, the rotatable member being rotatable about an axis, the apparatus configured to send a position signal to at least one electronic device, the position signal associated with the position of the rotatable member;

outputting a haptic force sensation to the rotatable member via an actuator coupled to the rotatable member, the haptic force sensation associated with a selected one of a plurality of functions associated with the electronic device; and

sensing a displacement of the rotatable member to select the one of the plurality of functions.

76. (Amended) The method of claim 75, further comprising:

modulating the haptic force sensation via a controller coupled to the actuator and the sensor.

77. (Amended) The method of claim 75, wherein the apparatus is configured to transmit the position signal via wireless transmission using an electromagnetic beam.

78. (Amended) The method of claim 75, wherein the outputting the haptic force sensation associated with a selected one of the plurality of functions includes outputting the haptic force sensation associated with at least one of controlling a volume for audio output, selecting at least one of a received broadcast station and a channel from multiple stations and channels, and scrolling through a list of selections.

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79. (Amended) The method of claim 78, wherein the outputting the haptic force sensation associated with selecting at least one of the broadcast station and the channel includes outputting at least one of a detent and a jolt sensation, the detents or jolts associated with the detent sensation and the jolt sensation being configured to be associated with a selection of particular stations or channels.

80. (Amended) The method of claim 78, wherein the outputting the haptic force sensation associated with scrolling through a list of selections includes outputting a spring return sensation.

81. (Amended) The method of claim 80, wherein the outputting a spring return sensation is associated with an isometric control paradigm.

82. (Amended) The method of claim 75, further comprising:

selecting a mode from one of an isotonic mode and an isometric mode of the rotatable member, the haptic force sensation output to the rotatable member being different depending on the selected mode.

83. (Amended) The method of claim 75, further comprising:

associating detents with varied rotary spacing to the rotatable member, the associated detents being associated with the selected one of the plurality of functions.

84. (Amended) The method of claim 75, further comprising:

associating hard stops at different locations within a range of travel of the rotatable member, the locations associated with the selected one of the plurality of functions.

85. (Amended) The method of claim 75, further comprising

associating different levels of simulated damping to the rotatable member, the associated level of simulated damping associated with the selected one of the plurality of functions.

86. (Amended) The method of claim 75, wherein sensing displacement of the rotatable member includes sensing a depression of the rotatable member.

87. (Amended) The method of claim 75, wherein the haptic force sensation is associated with an event occurring in a graphical environment implemented by the at least one electronic device.

88. (Amended) A handheld remote control apparatus, comprising:

a rotatable member being rotatable about an axis;

a sensor configured to send data associated with a rotation of the rotatable member to an electronic device having a plurality of selectively actuated functions, at least one of the selectively actuated functions includes selecting at least one of a broadcast station and a channel from multiple stations and channels; and

an actuator configured to output a haptic force sensation to said rotatable member, said actuator being configured to associate the haptic force sensation with the selected one of the plurality of functions, the haptic force sensation including at least one of a detent and a jolt, the at least one of the detent and the jolt being spaced apart in the rotation of the rotatable member,

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Cont.

the at least one of the detent and the jolt being associated with the selection of the at least one of the broadcast station and the channel.

C4 Concl.
89. (Amended) The apparatus of claim 88, wherein said actuator is a passive actuator.

90. (Amended) The apparatus of claim 88, wherein said actuator is an active actuator.

91. (Amended) The apparatus of claim 88, wherein the sensor is configured to provide the data to the electronic device via wireless transmission using an electromagnetic beam.

C4 Subj
98. (Amended) The apparatus of claim 88, further comprising a processor configured to communicate with the actuator and configured to associate the haptic force sensation with the selected one of the plurality of functions, said processor configured to include selectable modes, the selectable modes including a selectable isotonic mode and a selectable isometric mode for said rotatable member, the haptic force sensation output to said rotatable member being different depending on which of the modes is selected.

C5 Subj
100. (Amended) The apparatus of claim 88, wherein said rotatable member is configured to be depressed, said rotatable member configured to select the selected one of the plurality of functions based on the depression.

Subj
--101. (New) A handheld remote control apparatus, comprising:
a rotatable member being rotatable about an axis;
a sensor configured to send data associated with a rotation of the rotatable member to an electronic device, the electronic device having a plurality of selectively actuated functions, at least one of the selectively actuated functions includes scrolling through a list of selections; and
an actuator configured to output a haptic force sensation to said rotatable member, said actuator being configured to associate the haptic force sensation with the selected one of the plurality of functions, the haptic force sensation including an isometric control paradigm having a spring return sensation.